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Formerly, all logging at this timber point was done by hand. In the first quarter of 1949, manual logging was 35 percent and skidding, 58 percent; the timber was usually loaded on to the rolling stock by hand. The operation of hauling the timber away was mechanized only 80 percent. At the lower piling point, too, all the operations (unloading, stacking, and loading on to the wide-gauge railroad) were performed by hand.

The application of the new flitch-removal method necessitated a complete rearrangement of the lower piling area, special preparation of the rolling stock, and mechanization of flitch loading at the upper piling area.

The technical process at the Balakirevskiy Timber Center now comprises the following operations: turning the timber into flitch by means of the TsNIIME-K5 electric saw, fed from a TsNIIME-8 mobile electric station, having a current frequency of 200 amperes per second; dividing the timber area into clearing sections; building a main skidding road, removing dangerous trees; and special preparation of the loading platforms.

The timber is skidded by means of KT-12 tractors over a distance of 500 - 600 meters, and by three-drum winches over 250 meters. The width of clearing sections for tractor skidding is 30 meters. For skidding by winch, the timber area is cut into sectors mounted by trailing masts with an angle of 8 - 9 degrees; the sector at the base is 35 - 40 meters.

Skidding of timber takes place immediately upon felling. The upper piling area points have been eliminated. Instead, a very simple platform, 25 - 30 meters long, is constructed and beams are placed across it at a distance of a quarter of its length from each end. It is recommended that permanent log rollers, 1.5 meters high, be constructed at the edge of the platform and along the railroad to facilitate the loading of the flitch.

In tractor skidding, the flitch is delivered to the platform from both ends. In skidding by winch, the flitch is delivered to two platforms, one on each side of the mast.

To remove the timber as flitch, loading has been mechanized by means of the TL-1 winch. A jib in the form of an "A" is placed against the platform, or two simple jibs, 8 meters high, at a distance of 10 meters from one another. The jibs are somewhat inclined toward the railroad so that their tops overhang the rolling stock.

The traction power of the TL-1 (one meter) is insufficient for lifting large flitch; therefore, a mobile pulley, which makes the loading operation calm and safe, is used.

Loading of flitch 0.30 and 0.35 cubic meters in size with an A-shaped jib is done at a rate of 100 cubic meters per shift. The brigades consist of three men: a jib operator and two loaders.

Narrow-gauged platforms were successfully utilized in the haulage of flitch at the Balakirevskiy and Balakhoninskiy Timber Centers. By coupling two such platforms, 16 - 17 cubic meters were loaded at the former point, and 22 - 23 cubic meters, or 18 tons, of oak timber at the latter. The tare coefficient was 0.52 in the case of the former and 0.39 for the latter.

The haulage of flitch was performed without complications. The loads moved at the same speed as unsectioned timber.

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When timber is hauled in the form of flitch, the work must first be thoroughly organized at the lower piling point. The latter, instead of a simple stacking area, becomes a basic production point for finished products. It must have mechanized equipment for unloading flitch from rolling stock, sorting, transport of assorted wood, as well as roads leading to the timber piles.

Unloading is carried out by means of a mechanized log dumper consisting of two masts, 8 meters high, from which a five-fold pulley is suspended. To operate the log dumper, two drums are used, with cables of about equal speed.

When the loading train arrives, it is stationed with the first car opposite the log dumper. Then the platforms, in turn, are unloaded, the flitch having already been sawn and assorted. Two men operate the log dumper.

The unloading of platforms and all necessary operations (coupling of car loads, shifting the platforms, etc.) takes 8 - 10 minutes, irrespective of the size of the load. In the Balakhoninskiy Timber Management the operation of removing processed timber by the new method reached 95 percent, whereas the old method yielded only 70 - 75 percent in the past.

At the Balakirevskiy Timber Center, sorting takes place by means of a chain log roller constructed along the platform. The logs which have been sorted on the platform are immediately dumped into the roller from which they are later thrown off and placed into stacks.

Round timber requiring no processing is stacked by means of loading machine assemblies, steam cranes, or EZhD-3 elevators, which can stack the logs over a distance of 70 - 80 meters.

Timber which must be processed (mine supports, etc.) as soon as it reaches the stock is worked by means of a balance saw and a chain chopper.

Timber which is more than 2 meters long is loaded at the Balakirevskiy center by means of two steam cranes; and short pieces, by means of a battery transporter which piles it over a distance of 40 meters.

The technique described above brings complete mechanization to heavy, labor-consuming operations and yields higher labor productivity. It has considerably reduced the timber production period, so that the time between felling and delivery to the consumer amounts to only 24 hours. It also allows for increased capital turnover. Finally, this method is based on the use of series produced equipment which is already available, and may be employed in most of the timber enterprises.

At the Balakirevskiy center, where the dicotyledonous type of tree prevails, and consequently there are short timber assortments (common logs and wood), the volume of work connected with flitch sectioning, sorting and stacking at the lower piling area, is greater than in the processing of coniferous timber. But even here, labor productivity has doubled through the new method and in the third quarter has yielded 1.79 cubic meters per worker per day, as against the previous 0.79 cubic meters.

The production process extends over 9 hours and is distributed as follows: felling and lying time at the clearing, 4 hours; haulage over 600 meters, 0.5; loading and train dispatch, 2; haulage over the narrow-gauge road, 0.7; unloading at the lower piling area, 0.2; cutting the flitch into sections, 0.4; sorting, 0.2; and stacking - 1 hour.

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Electric power, a particularly important element in this mechanized process, was supplied at the Balakirevskiy Center by the following types of mobile stations: PES-12, TsNIIME-8, PES-60, PPES-40, and PES-50.

There remains the problem of applying this method in enterprises which are at present hauling timber by truck or tractor and where the timber transport roads adjoin rivers.

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